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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/797,669

03/10/2004

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112056-0151U

4140

24267 7590 07/07/2010
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EXAMINER

RADTKE, MARK A

ART UNIT

PAPER NUMBER

2165

MAIL DATE

DELIVERY MODE

07/07/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,669	Applicant(s) GUPTA ET AL.	
	Examiner MARK A. X RADTKE	Art Unit 2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 and 59-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49, 59, 61 and 62 is/are rejected.
- 7) ☒ Claim(s) 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. In response to communications filed on 30 March 2010, claim(s) 50-58 is/are cancelled, claim(s) 1, 13, 19, 27, 33, 42 and 48 is/are amended, and new claim(s) 59-62 is/are added per Applicant's request. Therefore, claims 1-49 and 59-62 are presently pending in the application, of which, claim(s) 1, 13, 19, 27, 33, 42 and 48 is/are presented in independent form.
2. It is noted that the status of claims listed in the Remarks section of Applicant's Response filed 30 March 2010 are incorrect because they fail to include claim 62.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-22, 24-36, 38-49, 59 and 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (U.S. Pat. No. 6,421,711) in view of Wang (U.S. Pat. No. 7,155,463), further in view of Shimozono (U.S. Pat. No. 7,124,169).

As to claim 1, Blumenau teaches a system configured to simplify management of a clustered storage system having a plurality of failover modes (see Abstract), the system comprising:

a user interface system that allows a user to define a plurality of failover modes (see columns 28-31, "Graphical User Interface for Virtual Ports" and see column 34, line 60 – column 35, line 6) in a clustered storage system (see column 41, line 35, "cluster"); and

a command set implemented by the user interface system, the command set including a first command and a second command,

the second command configured to set a cluster mode, the cluster mode including at least one of the plurality of failover modes in which a storage system is to operate (see column 33, lines 29-52, see cols. 34-35, spanning paragraph and see col. 11, ll. 43-55).

Blumenau does not explicitly teach wherein each failover mode automatically configures one or more ports on a selected storage system or a partner storage system in response to a failover condition, wherein the partner storage system is configured to receive requests directed to the partner storage system and the selected storage system, each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system; and

Art Unit: 2165

the first command configured to permit the user to specify a specific initiator group (igroup) to utilize one or more ports for data access proxying in the clustered storage system wherein the igroup is a logical named entity assigned to one or more addresses that are associated with one or more initiators,

wherein the command set further provides information specific to the failover operations of the one or more ports to the user on the user interface system.

However, Wang teaches wherein each failover mode automatically configures one or more ports on a selected storage system or a partner storage system in response to a failover condition (see column 7, line 50 – column 8, line 3, "If an error or fault condition occurs..."), wherein the partner storage system is configured to receive requests directed to the partner storage system and the selected storage system (see column 5, lines 22-25, "Each of these logical devices may be made available and addressable" and see columns 4-5, spanning paragraph, "mirror of the local system" and see column 1, lines 42-48 for a definition of mirroring); and

wherein the command set further provides information specific to the failover operations of the one or more ports to the user on the user interface system (see Abstract, "monitoring" and see Figure 14A, "Monitor" and see column 21, lines 15-24).

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to modify Blumenau by the teaching of Wang for the benefit of enabling "management of multiple devices used for data replication and the data itself [...] while maintaining ease of use and not requiring high degrees of

Art Unit: 2165

experience and knowledge regarding information technology" (see Wang, column 2, lines 5-13).

Blumenau, as modified, still does not explicitly teach each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system; and

the first command configured to permit the user to specify a specific initiator group (igroup) to utilize one or more ports for data access proxying in the clustered storage system wherein the igroup is a logical named entity assigned to one or more addresses that are associated with one or more initiators.

However, Shimozono teaches each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system (see column 5, lines 16-30, "WWNN" and "WWPN"); and

the first command configured to permit the user to specify a specific initiator group (igroup) to utilize one or more ports for data access proxying in the clustered storage system wherein the igroup is a logical named entity assigned to one or more addresses that are associated with one or more initiators (see column 10, lines 49-62 and see column 11, line 45 – column 12, line 46).

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to further modify Blumenau by the teachings of Shimozono for the benefit of making "it possible to differentiate a read request changed

Art Unit: 2165

by the copy management switch 203 from a command such as a read request issued to the storage device 104b holding copy data" (see Shimozono, column 13, lines 58-62).

As to claims 2, 34 and 43, Blumenau, as modified, teaches wherein the user interface system comprises a command line interface (CLI) configured to support the command set (see columns 28-31, "Graphical User Interface for Virtual Ports").

As to claims 3, 20-21 and 35, Blumenau, as modified, teaches wherein the command set further comprises an igroup command that determines whether a set of initiators may utilize data access command proxying (see columns 12-21, "Storage Volume Partitioning by Named Groups", where "initiators" is read on "hosts").

As to claims 4, 22 and 36, Blumenau, as modified, teaches wherein the set of initiators comprises at least one fibre channel world wide name (see figure 5, column "Host Controller WWN" and see also column 13, lines 33-34, "host controller port WWN").

As to claims 6 and 38, Blumenau, as modified, teaches wherein the igroup command sets an igroup option to determine whether members of a set of initiators may use a partner port for proxying data access command (see column 15, lines 34-60 and see column 2, line 56 – column 3, line 18).

Art Unit: 2165

As to claims 7 and 11, Blumenau, as modified, teaches wherein the command set further comprises a cfmode command that sets a cluster mode for the clustered storage system (see column 12, line 65 – column 13, line 6).

As to claims 8, 14, 24, 28, 39 and 45, Blumenau, as modified, teaches wherein the cluster mode enables the clustered storage system to proxy data access requests received by a first storage system in the clustered storage system to a second storage system in the clustered storage system (see column 15, lines 34-60 and see column 2, line 56 – column 3, line 18 and see column 17, line 9 – column 18, line 5 and see column 10, lines 16-51).

As to claims 9, 15, 25, 29, 40 and 46, Blumenau, as modified, teaches wherein the cluster mode enables a first storage system in the clustered storage system to assume an identity of a second storage system in the clustered storage system (see column 11, lines 31-56).

As to claims 10, 26, 41 and 47, Blumenau, as modified, teaches wherein the cluster mode enables proxying of data access requests received by a first storage system in the clustered storage system to a second storage system in the clustered storage system and further enables the first storage system to assume an identity of the second storage system (see column 15, lines 34-60 and see column 2, line 56 – column

Art Unit: 2165

3, line 18 and see column 17, line 9 – column 18, line 5 and see column 10, lines 16-51 and see column 11, lines 31-56).

As to claims 12, 16-18, 30-32 and 44, Blumenau, as modified, teaches wherein the user interface system further comprises a graphical user interface having functionality to implement the command set (See columns 28-31, "Graphical User Interface for Virtual Ports". The phrase "having functionality to" renders the rest of the claim as intended use because the limitations are not positively recited. The limitation of "to implement the command set" will not be given patentable weight, although it is taught by Blumenau.).

As to claim 13, Blumenau teaches a method for simplifying management of a clustered storage system having a plurality of failover modes (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 7 above.

As to claim 19, Blumenau teaches a system adapted to simplify management of a clustered storage system having a plurality of failover modes (see Abstract), the system comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 2 above.

Art Unit: 2165

As to claim 27, Blumenau teaches a computer readable medium, including program instructions executing on a computer, for simplifying management of a clustered storage system having a plurality of failover modes (see Abstract), the computer readable medium including instructions for performing the steps of:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 7 above.

As to claim 33, Blumenau teaches a system (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claim 42, Blumenau teaches a method (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 13 above.

As to claim 48, Blumenau teaches a system configured to simplify management of a clustered storage system having a plurality of failover modes (see Abstract), the system comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

Art Unit: 2165

As to claim 49, Blumenau, as modified, teaches wherein the plurality of failover modes comprises a standby mode, a partner mode, a dual fabric mode, and a mixed mode (see col. 8, ll. 24-45, "Fibre Channel", "dual-redundant paths").

As to claim 59, Blumenau, as modified, teaches wherein the igroup allows a user to define related clients by a logical name (see column 13, lines 28-57, "volume group name").

As to claim 61, Blumenau, as modified, teaches wherein data access at a lun level is not affected by reorganization of the initiators (see column 34, lines 40-50, particularly lines 46-50).

As to claim 62, Blumenau, as modified, teaches wherein data access proxying comprises receiving, at a proxy port of a first storage system, a command to be forwarded to a second storage system for execution (see column 7, lines 22-39, "the port adapter forwards a storage access request to the storage adapters").

5. Claims 5, 23 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau, as modified, as applied to claims 3, 21 and 35, further in view of Clark ("IP SANs: A Guide to iSCSI, iFCP, and FCIP Protocols for Storage Area Networks", Published 26 November 2001, Section 8.5, "Internet SCSI").

Art Unit: 2165

As to claims 5, 23 and 37, Blumenau, as modified, teaches wherein the set of initiators comprises one or more identifiers (see columns 9-11, "WWN").

Blumenau, as modified, still does not explicitly teach wherein the identifiers are iSCSI identifiers.

Clark teaches wherein the identifiers are iSCSI identifiers (see pages 2-4, "iSCSI Address and Naming Conventions").

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to have further modified Blumenau, as modified, by the teaching of Clark because iSCSI is a well-known alternative to Fibre Channel technology and "the iSCSI specification allows for a lower functional level on top of IP to provide services such as IPSec data encryption" (see page 2, section 8.5.2, paragraph 2).

Allowable Subject Matter

6. Claim 60 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2165

The prior art of record does not disclose, teach, or suggest the claimed limitations regarding igroups and vdisks. Prior to the priority filing date of the instant application, only Network Appliance, the assignee of the instant invention, describes the use of igroups with relation to the claimed features.

Response to Arguments

8. Applicant's arguments filed on 30 March 2010 have been fully considered but are moot in view of the new grounds for rejection.

Additional References

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of art with respect to igroup proxying in general:

Doc. No.	Assigned to
US 7467191 B1	Wang; Fang et al.
US 20040030768 A1	Krishnamoorthy, Suban et al.
US 20040103220 A1	Bostick, Bill et al.
US 20050008016 A1	Shimozono, Norio et al.
US 7055014 B1	Pawlowski; Brian et al.

Art Unit: 2165

US 7293152 B1	Srinivasan; Mohan et al.
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Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications should be directed to the Examiner, Mark A. Radtke. The Examiner's telephone number is (571) 272-7163, and he can normally be reached between 9 AM and 5 PM, Monday through Friday. The Examiner may be contacted via e-mail at mark.radtke@uspto.gov. See MPEP 502.03 for important information governing Internet communication.

Art Unit: 2165

If attempts to contact the Examiner are unsuccessful, his supervisor, Neveen Abel-Jalil, can be reached at (571) 272-4074.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (800) 786-9199.

maxr

/Neeven Abel-Jalil/
Supervisory Patent Examiner, Art Unit 2165